

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 H01L21/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, IBM-TDB

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 903 717 A (SUMNITSCH FRANZ) 27 February 1990 (1990-02-27) cited in the application abstract; figure 3 column 3, line 22 -column 5, line 41	1,4-8
Y	---	2,3
X	DE 198 07 460 A (SEZ SEMICONDUCT EQUIP ZUBEHOER) 15 April 1999 (1999-04-15) the whole document ---	1,4-8
X	PATENT ABSTRACTS OF JAPAN vol. 2000, no. 20, 10 July 2001 (2001-07-10) & JP 2001 077082 A (TAKATA CORP), 23 March 2001 (2001-03-23) abstract ---	1,4-8
	-/-	

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the International filing date but later than the priority date claimed

- *T* later document published after the International filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the International search

8 June 2004

Date of mailing of the International search report

18/06/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Hamdani, F

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 678 116 A (KITAGAWA MASARU ET AL) 14 October 1997 (1997-10-14) abstract; claims; figures ----	2,3
A	US 5 718 763 A (TATEYAMA KIYOHISA ET AL) 17 February 1998 (1998-02-17) abstract; claims; figures 4,5 column 6, line 53 -column 7, line 45 ----	1-8
A	US 5 273 589 A (HUSAIN SYED A ET AL) 28 December 1993 (1993-12-28) abstract; claims; figures ----	1-8
E	US 2004/050491 A1 (IZUMI AKIRA ET AL) 18 March 2004 (2004-03-18) abstract; claims; figures 5-19 ----	1-8

Patent document cited in search report		Publication date		Patent family member(s)		Publication date
US 4903717	A	27-02-1990		AT 389959 B AT 295887 A AT 104470 T AT 105972 T CA 1309929 C DE 3889073 D1 DE 3889672 D1 EP 0316296 A2 EP 0444714 A1 JP 1988089 C JP 5283395 A JP 7015150 B JP 1240682 A JP 1811510 C JP 5014791 B KR 9701008 B1 KR 120321 B1		26-02-1990 15-07-1989 15-04-1994 15-06-1994 10-11-1992 19-05-1994 23-06-1994 17-05-1989 04-09-1991 08-11-1995 29-10-1993 22-02-1995 26-09-1989 27-12-1993 25-02-1993 25-01-1997 22-10-1997
DE 19807460	A	15-04-1999	DE	19807460 A1		15-04-1999
JP 2001077082	A	23-03-2001		NONE		
US 5678116	A	14-10-1997		JP 7283126 A JP 8064514 A KR 164007 B1		27-10-1995 08-03-1996 01-02-1999
US 5718763	A	17-02-1998		JP 3033008 B2 JP 7333857 A JP 3114084 B2 JP 7326571 A TW 399104 B US 5853803 A		17-04-2000 22-12-1995 04-12-2000 12-12-1995 21-07-2000 29-12-1998
US 5273589	A	28-12-1993		NONE		
US 2004050491	A1	18-03-2004	JP	2004111487 A		08-04-2004